AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method of evaluating sensitivity of an individual human subject to a drug, which comprises:

linking ~~a gene polymorphism~~ IVS3 + A6151G to individual [[drug]] methamphetamine sensitivity, ~~the gene polymorphism being selected from the group consisting of:~~ wherein IVS3 + A6151G is a gene polymorphism of the human mu opioid receptor gene, and wherein IVS3 + A6151G is either an A or a G in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 28,

~~IVS3 + A6151G of SEQ ID NO: 28;~~

wherein the method, optionally, further comprises linking gene polymorphisms that are in linkage disequilibrium with IVS3 + A6151G, said gene polymorphisms in linkage disequilibrium with IVS3 + A6151G being selected from the group consisting of:

IVS3+A8449G of the human mu opioid receptor gene, wherein IVS3+A8449G is either an A or a G in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 29,TAA+G886A of the human mu opioid receptor gene, wherein TAA+G886A is either a G or an A in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 33, TAA+T1360C of the human mu opioid receptor gene, wherein TAA+T1360C is either a T or a C in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 34, TAA+T1371C of the human mu opioid receptor gene, wherein TAA+T1371C is either a T or a C in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 35, TAA+G1670A of the human mu opioid receptor gene, wherein TAA+G1670A is either a G or an A in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 36, TAA+G1709A of the human mu opioid receptor gene, wherein TAA+G1709A is either a G or an A in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 37, TAA+C2008T of the human mu opioid receptor gene, wherein TAA+C2008T is either a C or a T in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 38, TAA+A2109G of the human mu opioid receptor gene, wherein TAA+A2109G is either an A or a G in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 39, TAA+A2274G of the human mu opioid receptor gene, wherein TAA+A2274G is either an A or a G in the position in the mu opioid

receptor gene corresponding to position 51 of SEQ ID NO: 40, TAA+G2287A of the human mu opioid receptor gene, wherein TAA+G2287A is either a G or an A in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 41, TAA+G2395C of the human mu opioid receptor gene, wherein TAA+G2395C is either a G or a C in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 42, TAA+G2458C of the human mu opioid receptor gene, wherein TAA+G2458C is either a G or a C in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 43, TAA+T2482C of the human mu opioid receptor gene, wherein TAA+T2482C is either a T or a C in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 44, TAA+G2497A of the human mu opioid receptor gene, wherein TAA+G2497A is either a G or an A in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 45, TAA+G2656T of the human mu opioid receptor gene, wherein TAA+G2656T is either a G or a T in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 46, TAA+C2714A of the human mu opioid receptor gene, wherein TAA+C2714A is either a C or an A in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 47, TAA+G2820T of the human mu opioid receptor gene, wherein TAA+G2820T is either a G or a T in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 48, TAA+G2907T of the human mu opioid receptor gene, wherein TAA+G2907T is either a G or a T in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 49, TAA+T3423C of the human mu opioid receptor gene, wherein TAA+T3423C is either a T or a C in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 50, TAA+A4026G of the human mu opioid receptor gene, wherein TAA+A4026G is either an A or a G in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 51, TAA+4585(A)n of the human mu opioid receptor gene, wherein TAA+4585(A)n is either A(5) or A(6) in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 52, TAA+A4861C of the human mu opioid receptor gene, wherein TAA+A4861C is either an A or a C in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 53, TAA+A5359G of the human mu opioid receptor gene, wherein TAA+A5359G is either an A or a G in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 54, TAA+A6074C of the human mu opioid receptor gene, wherein TAA+A6074C is either an A or a C in the position in the mu opioid receptor gene corresponding to position 51

of SEQ ID NO: 55, TAA+T6866G of the human mu opioid receptor gene, wherein TAA+T6866G is either a T or a G in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 56, TAA+C6922G of the human mu opioid receptor gene, wherein TAA+C6922G is either a C or a G in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 57, TAA+7075del(322bp) of the human mu opioid receptor gene, wherein TAA+7075del(322bp) comprises a 322 bp deletion or does not comprise a 322 bp deletion in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 58, TAA+C7427T of the human mu opioid receptor gene, wherein TAA+C7427T is either a C or a T in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 59, TAA+7483del(A) of the human mu opioid receptor gene, wherein TAA+7483del(A) comprises an A deletion or does not comprise an A deletion in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 60 , TAA+T7536C of the human mu opioid receptor gene, wherein TAA+T7536C is either a T or a C in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 61, TAA+A7589G of the human mu opioid receptor gene, wherein TAA+A7589G is either an A or a G in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 62, TAA+C8116T of the human mu opioid receptor gene, wherein TAA+C8116T is either a C or a T in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 63, TAA+C8165T of the human mu opioid receptor gene, wherein TAA+C8165T is either a C or a T in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 64, TAA+G8281A of the human mu opioid receptor gene, wherein TAA+G8281A is either a G or an A in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 65, TAA+8386(A)n of the human mu opioid receptor gene, wherein TAA+8386(A)n comprises either an A(13) or an A(16) in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 66, TAA+C9000T of the human mu opioid receptor gene, wherein TAA+C9000T is either a C or a T in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 67, TAA+A9564G of the human mu opioid receptor gene, wherein TAA+A9564G is either an A or a G in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 68, TAA+G9669A of the human mu opioid receptor gene, wherein TAA+G9669A is either a G or an A in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 69, TAA+T9716A of the human mu

opioid receptor gene, wherein TAA+T9716A is either a T or an A in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 70, TAA+T9839G of the human mu opioid receptor gene, wherein TAA+T9839G is either a T or a G in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 71, TAA+C9994A of the human mu opioid receptor gene, wherein TAA+C9994A is either a C or an A in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 72, TAA+C10083A of the human mu opioid receptor gene, wherein TAA+C10083A is either a C or an A in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 73, TAA+10223(A)n of the human mu opioid receptor gene, wherein TAA+10223(A)n is either an A(4) or an A(3) in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 74, TAA+A10247T of the human mu opioid receptor gene, wherein TAA+A10247T is either an A or a T in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 75, TAA+A10535G of the human mu opioid receptor gene, wherein TAA+A10535G is either an A or a G in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 76, TAA+G10704A of the human mu opioid receptor gene, wherein TAA+G10704A is either a G or an A in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 77, TAA+T10752G of the human mu opioid receptor gene, wherein TAA+T10752G is either a T or a G in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 78, TAA+C11100T of the human mu opioid receptor gene, wherein TAA+C11100T is either a C or a T in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 79, TAA+C11129A of the human mu opioid receptor gene, wherein TAA+C11129A is either a C or an A in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO:80, TAA+11132(CA)n of the human mu opioid receptor gene, wherein TAA+11132(CA)n is either a CA(17) or a CA(14) in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 81, TAA+A11133G of the human mu opioid receptor gene, wherein TAA+A11133G is either an A or a G in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 82, TAA+11368del(TCTC) of the human mu opioid receptor gene, wherein TAA+11368del(TCTC) comprises either a TCTC deletion or does not comprise a TCTC deletion in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 83, TAA+T11411C of the human mu opioid receptor gene, wherein

TAA+T11411C is either a T or a C in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 84, TAA+T11431C of the human mu opioid receptor gene, wherein TAA+T11431C is either a T or a C in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 85, TAA+11449ins(TTTC) of the human mu opioid receptor gene, wherein TAA+11449ins(TTTC) comprises a TTTC insertion or does not comprise a TTTC insertion in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 86, TAA+G11541A of the human mu opioid receptor gene, wherein TAA+G11541A is either a G or an A in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 87, TAA+A11602C of the human mu opioid receptor gene, wherein TAA+A11602C is either an A or a C in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 88, TAA+C11650T of the human mu opioid receptor gene, wherein TAA+C11650T is either a C or a T in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 89, TAA+C11918T of the human mu opioid receptor gene, wherein TAA+C11918T is either a C or a T in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 90, TAA+A11956C of the human mu opioid receptor gene, wherein TAA+A11956C is either an A or a C in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 91, TAA+A12143G of the human mu opioid receptor gene, wherein TAA+A12143G is either an A or a G in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 92, TAA+A12630G of the human mu opioid receptor gene, wherein TAA+A12630G is either an A or a G in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 93, TAA+T12681C of the human mu opioid receptor gene, wherein TAA+T12681C is either a T or a C in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 94, TAA+T12831C of the human mu opioid receptor gene, wherein TAA+T12831C is either a T or a C in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 95, TAA+G12834C of the human mu opioid receptor gene, wherein TAA+G12834C is either a G or a C in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 96, TAA+13236(T)n of the human mu opioid receptor gene, wherein TAA+13236(T)n is either T(15) or T(14) in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 97, TAA+T13971G of the human mu opioid receptor gene, wherein TAA+T13971G is either a T or a G in the position in the mu

opioid receptor gene corresponding to position 51 of SEQ ID NO: 98 and TAA+G2025A of the human mu opioid receptor gene, wherein TAA+G2025A is either a G or an A in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 100,

~~wherein said gene polymorphisms are in linkage disequilibrium with IVS3 + A6151G of SEQ ID NO: 28;~~

~~the drug being at least one member selected from the group consisting of methamphetamine, methylenedioxymethamphetamine, amphetamine, dextroamphetamine, dopamine, morphine, DAMGO, codeine, methadone, carfentanil, fentanyl, heroin, cocaine, naloxone, naltrexone, nalorphine, levallorphan, pentazocine, buprenorphine, oxycodone, hydrocodone, levorphanol, etorphine, dihydroetorphine, hydromorphone, oxymorphone, ethanol, methanol, diethyl ether and tramadol~~.

2-21. (Canceled)

22. (Withdrawn, Currently Amended) The method according to claim 1, wherein the method further comprises linking one or more gene polymorphisms that are in linkage disequilibrium with IVS3 + A6151G, wherein said gene polymorphisms in linkage disequilibrium with IVS3 + A6151G are: ~~gene polymorphisms in linkage disequilibrium with IVS3+A6151G of SEQ ID NO: 28 are~~

IVS3+A8449G of the human mu opioid receptor gene, wherein IVS3+A8449G is either an A or a G in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 29,

TAA+A2109G of the human mu opioid receptor gene, wherein TAA+A2109G is either an A or a G in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 39 and

TAA+G2287A of the human mu opioid receptor gene, wherein TAA+G2287A is either a G or an A in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 41.

23. (Withdrawn, Currently Amended) The method according to claim 22, wherein the gene polymorphism that is in linkage disequilibrium with IVS3 + A6151G ~~gene polymorphism~~

[[that]] is ~~in linkage disequilibrium with IVS3+A6151G of SEQ ID NO: 28 is~~ IVS3+A8449G of the human mu opioid receptor gene, wherein IVS3+A8449G is either an A or an G in the position in the mu opioid receptor gene corresponding to position 51 of SEQ ID NO: 29.

24-28. (Canceled)